

014.

**Notice of Allowability**

Application No.

09/578,194

Applicant(s)

DORNELAS ET AL.

Examiner

Jane Zara

Art Unit

1635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3-2-04.
2. ☒ The allowed claim(s) is/are 1, 2, 7-16, 20-29.
3. ☒ The drawings filed on 24 May 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets" ) must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948 ) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|---|---|
| <ol style="list-style-type: none"><li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li><li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li><li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>5/28/03, 4/26/01</u></li><li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li></ol> | <ol style="list-style-type: none"><li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li><li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li><li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li><li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li><li>9. <input type="checkbox"/> Other _____</li></ol> |
|---|---|

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dana Rewoldt on or about 3-10-04.

The application has been amended as follows:

Claim 1 (currently amended) A process for the production of a transgenic plant, the seeds of which comprise an embryo exhibiting a modified cotyledons development, the process comprising the steps of:

transforming at least one plant cell with at least one [DNA antisense] nucleic acid construct comprising[: a nucleic acid sequence derived from the] an antisense of at least 150 nucleobases in length which specifically targets and inhibits the expression of ASKdzeta (ASKζ)-gene of group II [shown in] of SEQ ID NO: 6 [as a fragment of at least 150 base pairs corresponding to the 5' untranslated region and part of the N-terminal coding region], and

forming, from said transformed cells, a plant whose embryos exhibit modified development characterized by the development of an increased number of cotyledons.

In claim 2, line 2, "nucleic acid sequence derived from an ASKdzeta (ASKζ)-gene of group II is a fragment of" has been replaced with –antisense comprises—; and in lines 3-4, "base pairs corresponding to the 5' untranslated region and part of the N-terminal coding region" has been replaced with –nucleobases--.

Claim 4 has been canceled.

In claim 7, lines 2-3, "nucleic acid sequence derived from the ASK gene of group II is a fragment of 150 to 350 bp, corresponding to" has been replaced with –antisense comprises 150-350 nucleobases which specifically targets--.

In claim 9, line 1, "DNA" has been replaced with –nucleic acid--; in line 2, "being" has been deleted; in lines 3-5, "nucleic acid sequence derived from the ASK-gene of group II,, shown in SEQ ID NO: 6, and being capable of directing" has been replaced with –antisense and directs--; in line 4, "nucleic acid" has been replaced with –antisense—and in line 5, "derived from ASK gene of group II, shown in SEQ ID NO: 6" has been deleted.

In claim 10, line 2, " , in particular the 35-S CaMV-promoter" has been deleted.

In claim 11, line 1, "DNA" has been replaced with –nucleic acid--; in lines 3-4, "nucleic acid sequences derived from ASK gene of group II, shown in SEQ ID NO: 6, in particular a poly A addition site" has been replaced with –antisense sequence--.

In claim 12, line 1, "DNA" has been replaced with –nucleic acid--; in line 2, "vector, in particular a" has been deleted.

In claim 15, line 2, "DNA" has been replaced with –nucleic acid--.

Claim <sup>22</sup>~~24~~ (currently amended) A transgenic *Arabidopsis* plant, the seeds of which [comprises] comprise an embryo exhibiting a modified cotyledons development, [said] which plant [comprising] comprises at least one plant cell transformed by a nucleic acid [sequence derived from at least one] construct comprising an antisense of at least 150 nucleobases in length which specifically targets and inhibits the expression of ASKdzeta (ASKζ)-gene of group II [shown in] of SEQ ID NO: 6, wherein at least on embryo exhibits the modified cotyledons development.

Claim <sup>18</sup>~~25~~ (newly added) The process according to claim 1, wherein the antisense specifically targets the 5' untranslated region and part of the N-terminal coding region of SEQ ID NO: 6.

Claim <sup>3</sup>~~28~~ (newly added) The process according to claim 2, wherein the antisense specifically targets the 5' untranslated region and part of the N-terminal coding region of SEQ ID NO: 6.

Claim <sup>19</sup>~~27~~ (newly added) The process according to claim 1, wherein the antisense comprises between 150 and 300 nucleobases.

Claim <sup>20</sup>~~28~~ (newly added) The process according to claim 1, wherein the regulatory element comprises a 35-S CaMV-promoter.

Claim <sup>21</sup>~~29~~ (newly added) The process according to claim 1, wherein the transcription termination signal comprises a poly A site.

### REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: The claimed invention is free of the prior art of record because the prior art of record does not teach or fairly suggest a process for producing a transgenic plant comprising the transformation of a plant cell with an antisense between 150 and 350 nucleobases that specifically targets and inhibits the expression of SEQ ID NO: 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably


accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Certain papers related to this application may be submitted to Art Unit 1635 by facsimile transmission. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). The official fax telephone number for the Group is **703-872-9306**. NOTE: If Applicant *does* submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jane Zara** whose telephone number is **(571) 272-0765**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John LeGuyader, can be reached on (571) 272-0760. Any inquiry regarding this application should be directed to the patent analyst, Katrina Turner, whose telephone number is (571) 272-0564. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

JZ  
3-15-04

  
RAM R. SHUKLA, PH.D.  
PRIMARY EXAMINER